

March 26, 1990

FIELD DATA SUBMITTAL  
PART 2, REMEDIAL INVESTIGATIVE WORK  
PHASE 2B  
MONTROSE SITE  
TORRANCE, CALIFORNIA

OCTOBER 1989 THROUGH FEBRUARY 1990  
GROUNDWATER SAMPLING



By \_\_\_\_\_ Date \_\_\_\_\_ Subject \_\_\_\_\_ Job No. \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_ Sheet \_\_\_\_\_ of \_\_\_\_\_

3/26/90 AW Sampling  
10/89 - 2/90

WATER LEVELS

EC data

Climate Conditions



# HARGIS + ASSOCIATES, INC.

Consultants in Hydrogeology

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March 19, 1990

VIA FEDERAL EXPRESS

Ms. Janet Bell  
MCDONNELL DOUGLAS CORPORATION  
Internal Mail Code 211-40  
10833 Valleyview  
Cypress, CA 90630

Re: Field Data Submittal, Part 2 Remedial Investigation  
Work Phase 2B, Montrose Site, Torrance, California,  
October 1989 through February 1990 Groundwater Sampling

Dear Ms. Bell:

Enclosed please find the text and Appendices A and G of the above-referenced document. The enclosed information pertains to the groundwater sampling conducted at the McDonnell Douglas C-6 facility during October 1989 and February 1990. Field data pertaining to McDonnell Douglas monitor well construction will be forwarded upon completion of the two upper Bellflower aquitard monitor wells scheduled to be installed in late March at the C-6 facility.

Please contact me if you have any questions regarding this submittal.

Sincerely,

HARGIS + ASSOCIATES, INC.

A handwritten signature in black ink that appears to read "John W. Barker for".

Matthew P. Wiedlin  
Project Hydrogeologist

MAP:kag

Enclosure

belltrns.218.1

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FIELD DATA SUBMITTAL  
PART 2, REMEDIAL INVESTIGATIVE WORK  
PHASE 2B  
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OCTOBER 1989 THROUGH FEBRUARY 1990  
GROUNDWATER SAMPLING

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\*Appendices provided to McDonnell Douglas Corporation (MDC) for MDC's pre-EPA submittal review



HARGIS + ASSOCIATES, INC.

FIELD DATA SUBMITTAL  
PART 2, REMEDIAL INVESTIGATIVE WORK  
PHASE 2B  
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OCTOBER 1989 THROUGH FEBRUARY 1990  
GROUNDWATER SAMPLING

#### 1.0 INTRODUCTION

The following field data submittal details groundwater sampling performed during the Part 2, Phase 2B, Remedial Investigation (RI) work conducted at and in the vicinity of the Montrose Chemical Company (Montrose) property in Torrance, California. This March 1990 submittal consists of field data obtained during groundwater sampling events conducted from October 1989 through February 1990. It is submitted in conjunction with two other field data submittals that will be published in late May 1990. One will tentatively be titled August 1989 Through April 1990 Monitor and Test Well Construction and Soil Sampling. This submittal will describe lithology and well construction. The second submittal will tentatively be titled April 1990 Groundwater Sampling, and will describe the annual groundwater sampling round and the initial sampling for monitor wells MW-16 through MW-22. These three field data submittals will meet the requirements of the 1985 EPA-Montrose administrative order of consent and its subsequent amendments. In addition, two raw analytical data submittals corresponding to the two groundwater sampling field data submittals will also be published. The tentative publication dates for these submittals are mid-April and mid-June 1990, respectively.



## 2.0 GROUNDWATER SAMPLING

Groundwater sampling conducted during Phase 2B of the RI consisted of two quarterly rounds and five initial sampling rounds for newly constructed monitor wells (Table 1). The quarterly rounds were conducted during the periods October 23 through November 18, 1989, and February 20 through 25, 1990. Initial sampling rounds for new wells were conducted in November, December and January. Sampling was performed in accordance with the EPA-approved May 20, 1988, Sampling Plan and Quality Assurance Project Plan (QAPP) (Hargis + Associates, Inc., 1988a and 1988b).

Sampling of all scheduled project wells was not completed during the quarterly round commencing October 23, 1989, due to theft of sampling equipment. The remaining wells were sampled November 16 through 18, 1989. Monitor well LG-1 was not sampled during this quarterly round because its dedicated sample pump malfunctioned. Also, during the sampling round, additional field blanks were taken for EPA 608/8080 analysis at specific wells where anomalies had occurred in the analysis data.

Two scope reductions for the February quarterly sampling round were implemented in accordance with EPA approvals. Thirteen on-property monitor wells that had been monitored for at least one year on a quarterly schedule were reduced to a semi-annual schedule and were therefore not sampled in February (EPA, 1989). Monitor well LG-1 was inadvertently included in this February reduction and not sampled. It was correctly considered eligible for a quarterly to semi-annual reduction; however, its semi-annual sampling should have occurred in February because it was omitted from the October 1989 quarterly sampling round. Additionally, pesticide analyses were not run on groundwater samples collected from monitor wells which did not contain detectable pesticide concentrations in their previous two sampling rounds (EPA, 1990).

Groundwater samples, including duplicate samples and field blanks collected during the sampling rounds, were submitted to Brown and Caldwell



Laboratories, Glendale, California, for pesticide analysis using EPA Method 608/8080 and volatile organic compound (VOC) analysis using EPA Method 624/8240. Trip blanks were submitted to Brown and Caldwell Laboratories for VOC analysis using EPA Method 624/8240. Laboratory split samples collected in the field during the sampling rounds were submitted to Analytical Technologies, Inc. (ATI), San Diego, California, for pesticide analysis using EPA Method 608/8080 and VOC analysis using EPA Method 624/8240. All groundwater samples submitted for VOC analysis were collected in preacidified vials. Samples collected for common ion and nitrate analysis were submitted to Brown and Caldwell.

Water levels were measured in all wells prior to the October 23 through November 18, 1989, November 13 through 17, 1989, and February 21 through 25, 1990, sampling rounds (Appendices A, C, and G). During the November 6, 1989, December 7 and 8, 1989, December 19 and 20, 1989, and January 10, 1990, sampling rounds, water levels were measured only in wells that were sampled (Appendices B, D, E, and F).



### 3.0 REFERENCES CITED

Hargis + Associates, Inc., 1988a. Remedial Investigative Work, Part 2, Quality Assurance Project Plan, Montrose Site, Torrance, California. Prepared for Montrose Chemical Corporation, Torrance, California; May 20, 1988.

—, 1988a. Remedial Investigative Work, Part 2, Phase 2A Groundwater, Soil, and Sediment Sampling Plan, Montrose Site, Torrance, California. Prepared for Montrose Chemical Corporation, Torrance, California; May 20, 1988.

U.S. Environmental Protection Agency (EPA), 1989. Letter from Ms. J. Miller, EPA, Region IX, to Mr. R. Niemeyer, Hargis + Associates, Inc. re: response to Groundwater Sampling Proposals for the Montrose Site; September 1, 1989.

—, 1990. Letter from Ms. J. Miller, EPA, Region IX, to Mr. J.D. Mohrbacher, Hargis + Associates, Inc. re: EPA Response to the Reduction in Groundwater Sampling; February 14, 1990.

Tables

TABLE 1  
SUMMARY OF MONITOR WELL SAMPLING

WELL ID	DATES OF SAMPLING ROUND.....						
	OCT 23-NOV 18, 1989 QUARTERLY ROUND	NOV 6, 1989 INITIAL ROUND	NOV 13-17, 1989 INITIAL ROUND	DEC 7-8, 1989 INITIAL ROUND	DEC 19-20, 1989 INITIAL ROUND	JAN 10, 1990 INITIAL ROUND	FEB 21-25, 1990 QUARTERLY ROUND
MW-1	X						
MW-2	X						
MW-3	X						
MW-4	X						
MW-5	X						
MW-6	X						X
MW-7	X						X
MW-8	X						X
MW-9	X						X
MW-10	X						X
MW-11	X						X
MW-12	X						X
MW-13	X						X
MW-14	X						X
MW-15	X						X
MW-23	X		X				X
MW-24	X		X				X
MW-25	X		X				X
MW-26	X		X				X
BF-1	X						
BF-2	X						
BF-3	X						
BF-4	X						
BF-5	X						X

X = Monitor well was sampled



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TABLE 1 (continued)  
 SUMMARY OF MONITOR WELL SAMPLING  
 Page 2

WELL ID	DATES OF SAMPLING ROUND.....						
	OCT 23-NOV 18, 1989 QUARTERLY ROUND	NOV 6, 1989 INITIAL ROUND	NOV 13-17, 1989 INITIAL ROUND	DEC 7-8, 1989 INITIAL ROUND	DEC 19-20, 1989 INITIAL ROUND	JAN 10, 1990 INITIAL ROUND	FEB 21-25, 1990 QUARTERLY ROUND
BF-6	X						X
BF-7	X						X
BF-8	X						X
BF-9	X						X
BF-10				X	X		X
BF-11				X	X		X
BF-12				X	X		X
BF-13		X	X				X
BF-14	X		X				X
BF-15	X		X				X
BF-16					X	X	X
BF-17					X	X	X
G-1	X						
G-2	X						
G-3	X						
G-4	X						X
G-5	X						X
G-6	X						X
G-7	X						X
G-8					X	X	X
G-9				X	X		
G-11		X	X				X
G-12	X		X				X
G-13	X		X				X

X = Monitor well was sampled



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TABLE 1 (continued)  
 SUMMARY OF MONITOR WELL SAMPLING  
 Page 3

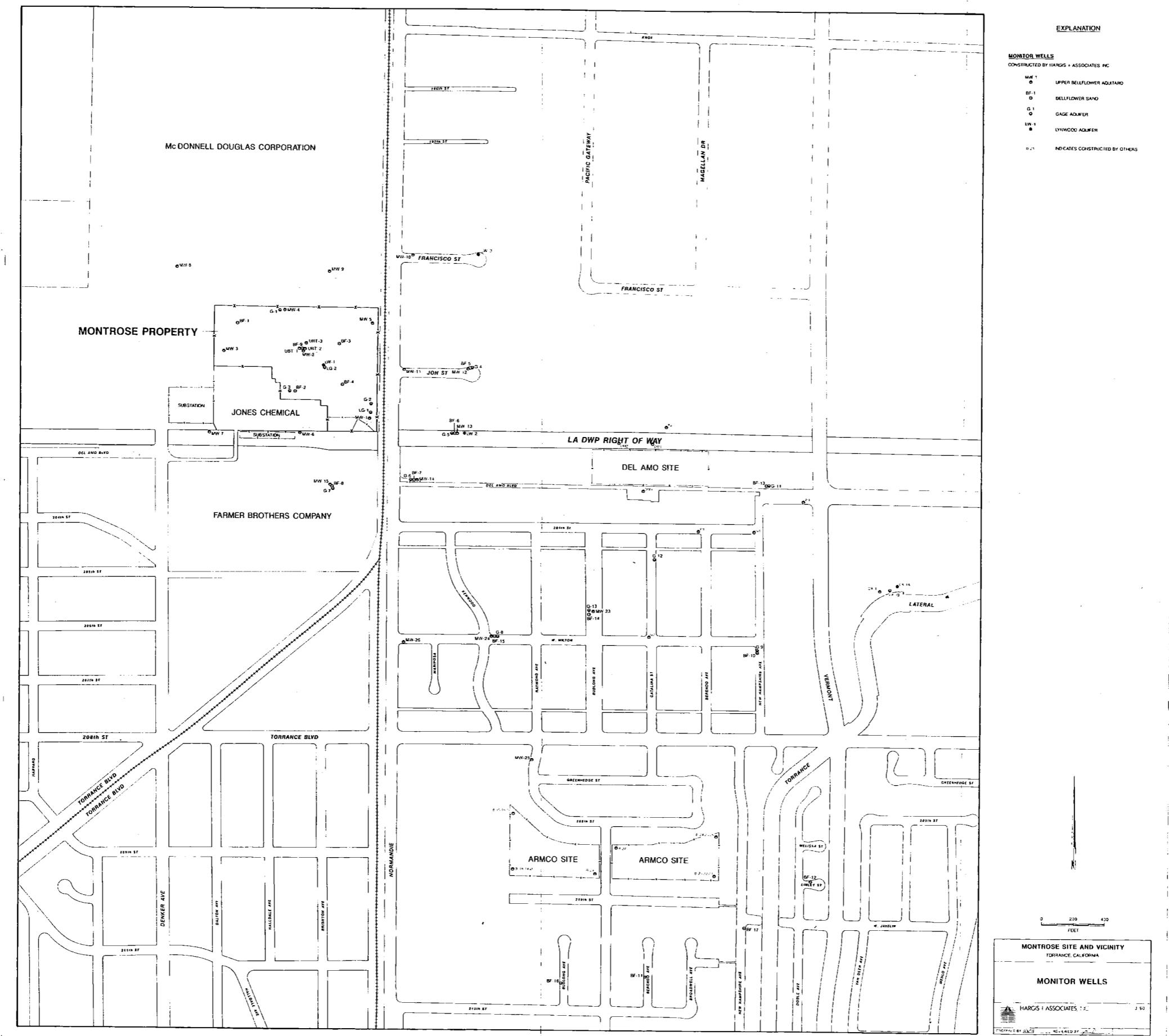
DATES OF SAMPLING ROUND.....							
<u>WELL ID</u>	OCT 23-NOV 18, 1989 QUARTERLY ROUND	NOV 6, 1989 INITIAL ROUND	NOV 13-17, 1989 INITIAL ROUND	DEC 7-8, 1989 INITIAL ROUND	DEC 19-20, 1989 INITIAL ROUND	JAN 10, 1990 INITIAL ROUND	FEB 21-25, 1990 QUARTERLY ROUND
LG-1							
LG-2	X						X
LW-1	X		X				X
LW-2	X		X				X
LW-3				X	X		X

X = Monitor well was sampled



HARGIS + ASSOCIATES, INC.

Illustrations



Appendix A



HARGIS + ASSOCIATES, INC.

**APPENDIX A**

**QUARTERLY GROUNDWATER SAMPLING ROUND  
OCTOBER 23-28 AND NOVEMBER 16-18, 1989**



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1989, GROUNDWATER SAMPLING ROUND
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AND NOVEMBER 16-18, 1989, GROUNDWATER SAMPLING ROUND

TABLE A-1

## STATIC WATER LEVELS, OCTOBER 23-28 AND NOVEMBER 16-18, 1989, GROUNDWATER SAMPLING ROUND

<u>WELL ID</u>	<u>DATE</u>	<u>REFERENCE POINT ELEVATION (feet msl)</u>	<u>DEPTH TO WATER BELOW REFERENCE POINT (feet)</u>	<u>WATER LEVEL ELEVATION (feet msl)</u>	<u>METHOD OF MEASURING</u>
MW-1	10-23-89	42.83	65.20	-22.37	Flat tape sounder
MW-2	10-28-89	48.79	70.42	-21.63	Steel tape
MW-3	10-23-89	47.41	68.63	-21.22	Flat tape sounder
MW-4	10-23-89	46.69	68.11	-21.42	Flat tape sounder
MW-5	10-23-89	44.95	66.66	-21.71	Flat tape sounder
MW-6	10-23-89	45.68	67.61	-21.93	Flat tape sounder
MW-7	10-23-89	47.42	68.58 (product) 68.98 (water)	-21.16 (product) -21.56 (water)	Steel tape* Steel tape
MW-8	10-23-89	49.09	70.25	-21.16	Flat tape sounder
MW-9	10-23-89	48.67	70.20	-21.53	Flat tape sounder
MW-10	10-23-89	43.20	64.61	-21.41	Flat tape sounder
MW-11	10-23-89	42.69	64.71	-22.02	Flat tape sounder
MW-12	10-23-89	40.17	62.42	-22.25	Flat tape sounder
MW-13	10-23-89	42.34	64.84	-22.50	Flat tape sounder
MW-14	10-23-89	43.13	65.74	-22.61	Flat tape sounder
MW-15	10-23-89	40.51	63.08	-22.57	Flat tape sounder
MW-23	10-23-89	36.35	60.01	-23.66	Flat tape sounder

\*Product thickness measured with steel tape and Kolor Kut pastes

msl = Mean sea level



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TABLE A-1 (continued)  
 STATIC WATER LEVELS, OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
 GROUNDWATER SAMPLING ROUND

Page 2

<u>WELL ID</u>	<u>DATE</u>	<u>REFERENCE POINT ELEVATION (feet msl)</u>	<u>DEPTH TO WATER BELOW REFERENCE POINT (feet)</u>	<u>WATER LEVEL ELEVATION (feet msl)</u>	<u>METHOD OF MEASURING</u>
MW-24	10-23-89	22.40	45.37	-22.97	Flat tape sounder
MW-25	10-23-89	31.98	56.21	-24.23	Flat tape sounder
MW-26	10-23-89	39.17	61.96	-22.79	Flat tape sounder
BF-1	10-23-89	48.28	69.22	-20.94	Flat tape sounder
BF-2	10-23-89	49.49	70.70	-21.21	Flat tape sounder
BF-3	10-23-89	48.27	69.54	-21.27	Flat tape sounder
BF-4	10-23-89	47.67	69.07	-21.40	Flat tape sounder
BF-5	10-23-89	39.37	61.63	-22.26	Flat tape sounder
BF-6	10-23-89	41.70	64.15	-22.45	Flat tape sounder
BF-7	10-23-89	42.64	64.89	-22.25	Flat tape sounder
BF-8	10-23-89	39.72	61.49	-21.77	Flat tape sounder
BF-9	10-23-89	48.69	69.80	-21.11	Flat tape sounder
BF-14	10-23-89	36.30	59.85	-23.55	Flat tape sounder
BF-15	10-23-89	22.82	46.08	-23.26	Flat tape sounder
G-1	10-23-89	46.66	68.00	-21.34	Flat tape sounder
G-2	10-23-89	43.46	65.57	-22.11	Flat tape sounder

msl = Mean sea level



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TABLE A-1 (continued)  
 STATIC WATER LEVELS, OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
 GROUNDWATER SAMPLING ROUND

Page 3

<u>WELL ID</u>	<u>DATE</u>	<u>REFERENCE POINT ELEVATION (feet msl)</u>	<u>DEPTH TO WATER BELOW REFERENCE POINT (feet)</u>	<u>WATER LEVEL ELEVATION (feet msl)</u>	<u>METHOD OF MEASURING</u>
G-3	10-23-89	49.69	71.21	-21.52	Flat tape sounder
G-4	10-23-89	39.70	62.37	-22.67	Flat tape sounder
G-5	10-23-89	41.71	64.49	-22.78	Flat tape sounder
G-6	10-23-89	42.54	65.20	-22.66	Flat tape sounder
G-7	10-23-89	39.88	62.01	-22.13	Flat tape sounder
G-12	10-23-89	25.85	50.50	-24.65	Flat tape sounder
G-13	10-23-89	36.09	60.73	-24.64	Flat tape sounder
LG-1	10-23-89	43.24	65.40	-22.16	Flat tape sounder
LG-2	10-23-89	44.61	66.31	-21.70	Flat tape sounder
LW-1	10-23-89	45.02	78.03	-33.01	Flat tape sounder
LW-2	10-23-89	42.07	75.42	-33.35	Flat tape sounder

msl = Mean sea level



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TABLE A-2  
SAMPLING INFORMATION, OCTOBER 23-28 AND NOVEMBER 16-18, 1989, GROUNDWATER SAMPLING ROUND

<u>WELL ID</u>	<u>SAMPLE DATE</u>	<u>TIME PUMP ON</u>	<u>TIME OF SAMPLING</u>	<u>AVERAGE DISCHARGE RATE (gpm)</u>	<u>NUMBER OF GALLONS PER CASING VOLUME</u>	<u>NUMBER OF GALLONS PURGED PRIOR TO SAMPLING</u>	<u>ELECTRICAL CONDUCTIVITY (umhos/cm)</u>	<u>pH</u>	<u>TEMPERATURE (°C)</u>
MW-1	11-17-89	13:30	14:41	0.2	5.8	18	8,000	6.23	22.9
MW-2*	10-28-89	15:39	15:39	0.5	4.1	2	---	---	---
MW-3	10-28-89	14:00	14:40	0.3	3.9	12	1,190	6.98	23.0
MW-4	11-16-89	12:15	13:04	0.5	4.5	14	2,430	6.37	22.7
MW-5	10-28-89	11:52	13:26	0.4	3.9	13	3,550	6.56	23.8
MW-6	10-27-89	17:55	19:10	0.4	8.3	25	6,100	6.51	21.9
MW-7	10-28-89	08:44	09:35	0.5	7.4	23	4,200	6.61	22.6
MW-8	10-27-89	12:20	13:20	0.3	6.8	21	900	7.45	22.4
MW-9	10-27-89	13:28	14:40	0.3	6.7	21	3,400	6.61	23.2
MW-10	10-27-89	15:55	16:55	0.5	8.4	26	2,350	7.13	22.0
MW-11	10-27-89	16:15	18:00	0.1	8.0	24	3,400	6.77	21.9
MW-12	10-25-89	11:48	13:10	0.4	8.8	27	1,900	6.99	21.8
MW-13	10-25-89	16:00	16:50	0.5	7.9	24	2,700	6.73	21.7
MW-14	10-24-89	14:17	15:05	0.3	4.7	15	2,100	6.72	22.4
MW-15	10-24-89	10:52	12:35	0.4	8.9	27	2,750	6.83	23.3
MW-23	10-26-89	11:53	13:50	0.3	9.8	30	2,300	7.20	21.8
MW-24	10-26-89	15:00	16:45	0.3	12.2	37	1,790	7.43	21.6
MW-25	10-28-89	10:36	11:40	0.5	9.4	29	1,350	7.36	21.7
MW-26	10-28-89	08:50	09:55	0.4	7.8	24	1,875	6.68	21.4

\*Approximately 170 milliliters of dense free product was purged from bottom of well; a sample was not submitted to the laboratory

gpm = Gallons per minute

umhos/cm = Micromhos per centimeter

°C = Degrees Celsius

(--) = Parameters were not measured in water with high target chemical concentrations in order to preserve field equipment



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TABLE A-2 (continued)  
 SAMPLING INFORMATION, OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
 GROUNDWATER SAMPLING ROUND

Page 2

<u>WELL ID</u>	<u>SAMPLE DATE</u>	<u>TIME SAMPLE PUMP ON</u>	<u>TIME OF SAMPLING</u>	<u>AVERAGE DISCHARGE RATE (gpm)</u>	<u>NUMBER OF GALLONS PER CASING VOLUME</u>	<u>NUMBER OF GALLONS PURGED PRIOR TO SAMPLING</u>	<u>ELECTRICAL CONDUCTIVITY (umhos/cm)</u>	<u>pH</u>	<u>TEMPERATURE (°C)</u>
BF-1	11-18-89	08:46	09:40	7.8	36	155	1,000	7.41	21.8
BF-2	10-28-89	17:00	17:30	6.5	35	130	825	6.87	22.2
BF-3	10-28-89	13:00	13:30	7.7	35	160	1,250	7.26	23.0
BF-4	10-28-89	14:20	14:50	7.5	35	160	1,000	6.96	23.1
BF-5	10-25-89	13:00	14:00	8.3	46	165	510	7.90	21.9
BF-6	10-25-89	15:54	16:15	7.5	40	130	1,250	7.45	21.5
BF-7	10-24-89	15:03	16:00	7.5	34	140	1,200	7.38	22.9
BF-8	10-24-89	10:55	11:24	6.9	41	124	890	7.46	23.5
BF-9	11-17-89	17:07	17:50	6.8	89	280	790	7.47	22.0
BF-14	10-26-89	09:50	10:35	7.4	45	185	710	7.64	21.7
BF-15	10-26-89	15:28	15:57	7.5	49	165	1,600	7.42	21.9
G-1	11-16-89	13:20	14:05	5.3	61	240	420	8.66	22.6
G-2	11-17-89	15:13	15:53	6.7	72	255	710	8.10	23.0
G-3	10-28-89	16:58	17:40	6.7	61	235	500	7.52	22.1
G-4	10-25-89	11:47	12:39	9.1	86	300	600	8.13	21.7
G-5	10-25-89	16:25	17:02	9.3	82	250	700	7.86	21.8
G-6	10-24-89	14:05	14:43	9.0	81	260	600	7.90	23.7
G-7	10-24-89	11:50	12:25	9.0	77	270	490	8.00	24.5

gpm = Gallons per minute

umhos/cm = Micromhos per centimeter

°C = Degrees Celsius



HARGIS + ASSOCIATES, INC.

TABLE A-2 (continued)  
 SAMPLING INFORMATION, OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
 GROUNDWATER SAMPLING ROUND

Page 3

<u>WELL ID</u>	<u>SAMPLE DATE</u>	<u>TIME SAMPLE PUMP ON</u>	<u>TIME OF SAMPLING</u>	<u>AVERAGE DISCHARGE RATE (gpm)</u>	<u>NUMBER OF GALLONS PER CASING VOLUME</u>	<u>NUMBER OF GALLONS PURGED PRIOR TO SAMPLING</u>	<u>ELECTRICAL CONDUCTIVITY (umhos/cm)</u>	<u>pH</u>	<u>TEMPERATURE (°C)</u>
G-12	10-27-89	9:27	10:23	7.0	108	330	775	7.93	22.5
G-13	10-26-89	08:43	09:33	6.7	101	310	510	8.41	21.1
LG-2	11-17-89	10:20	11:05	6.2	91	280	430	8.01	23.4
LW-1	10-25-89	09:01	09:52	15.0	126	510	420	8.42	23.0
LW-2	10-26-89	17:20	17:53	14.3	130	400	385	8.07	21.7

gpm = Gallons per minute  
 umhos/cm = Micromhos per centimeter  
 °C = Degrees Celsius



TABLE A-3

IDENTIFICATION OF FIELD DUPLICATE SAMPLES  
OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>SAMPLE LOCATION</u>	<u>SAMPLE TIME</u>	<u>DUPLICATE SAMPLE ID</u>	<u>FICTITIOUS SAMPLE TIME</u>
10-24-89	MW-14	15:05	MW-1400	15:00
10-25-89	BF-5	14:00	BF-500	14:10
10-26-89	BF-14	10:35	BF-1400	11:00
10-27-89	G-12	10:23	G-1200	10:30
10-28-89	MW-26	09:55	MW-2600	10:00
11-16-89	MW-25	09:50	MW-2500	10:00
11-17-89	LW-1	08:36	LW-100	08:50
11-18-89	BF-1	09:40	BF-100	09:55



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TABLE A-4  
IDENTIFICATION OF LABORATORY SPLIT SAMPLES  
OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>SAMPLE LOCATION</u>	<u>SAMPLE TIME</u>
10-24-89	MW-14	15:05
10-25-89	BF-5	14:00
10-26-89	BF-14	10:35
10-27-89	G-12	10:23
10-28-89	MW-26	09:55
11-16-89	MW-25	09:50
11-17-89	LW-1	08:36
11-18-89	BF-1	09:40

NOTE: Split samples were shipped to Analytical Technologies, Inc., San Diego, California, for EPA Methods 608/8080 and 624/8240 analyses



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TABLE A-5

IDENTIFICATION OF FIELD BLANKS  
OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>FICTITIOUS SAMPLE TIME</u>	<u>SAMPLE ID</u>	<u>BLANK WATER SOURCE</u>	<u>SAMPLE PREPARATION LOCATION</u>
10-24-89	13:00	WB-1(a)	Brown and Caldwell	MW-14
10-24-89	12:25	WB-2(b)	Brown and Caldwell	G-7
10-25-89	12:45	WB-1(b)	Brown and Caldwell	G-4
10-25-89	14:15	WB-1(c)	Brown and Caldwell	BF-5
10-26-89	10:55	WB-1(a)	Brown and Caldwell	BF-14
10-27-89	10:45	WB-1(a)	Brown and Caldwell	G-12
10-28-89	10:20	WB-1(a)	Brown and Caldwell	MW-26
11-16-89	10:05	WB-1(a)	Brown and Caldwell	MW-25
11-17-89	09:00	WB-1(a)	Brown and Caldwell	LW-1
11-17-89	11:15	WB-2(b)	Brown and Caldwell	LG-2
11-17-89	16:00	WB-3(b)	Brown and Caldwell	G-2
11-18-89	09:50	WB-1(a)	Brown and Caldwell	BF-1

- (a) Field blank sample submitted to Brown and Caldwell Laboratories for EPA Methods 608/8080 and 624/8240 analyses
- (b) Field blank sample submitted to Brown and Caldwell Laboratories for EPA Method 608/8080 analysis
- (c) Field blank sample submitted to Brown and Caldwell Laboratories for EPA Method 624/8240 analysis



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TABLE A-6  
 IDENTIFICATION OF TRIP BLANKS  
 OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
 GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>FICTITIOUS SAMPLE TIME</u>	<u>SAMPLE ID</u>	<u>SAMPLE PREPARED BY</u>	<u>LABORATORY PREPARATION DATE</u>
10-24-89	12:00	TB-1	Brown and Caldwell	10-22-89
10-25-89	13:00	TB-1	Brown and Caldwell	10-22-89
10-25-89	14:40	TB-2	Brown and Caldwell	10-22-89
10-26-89	10:45	TB-1	Brown and Caldwell	10-22-89
10-27-89	10:35	TB-1	Brown and Caldwell	10-22-89
10-28-89	10:10	TB-1	Brown and Caldwell	10-22-89
11-16-89	08:15	TB-1	Brown and Caldwell	11-13-89
11-16-89	18:30	TB-2	Brown and Caldwell	11-13-89
11-17-89	07:45	TB-1	Brown and Caldwell	11-13-89
11-17-89	16:20	TB-2	Brown and Caldwell	11-13-89
11-18-89	09:00	TB-1	Brown and Caldwell	11-13-89



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TABLE A-7  
WEATHER CONDITIONS  
OCTOBER 23-28 AND NOVEMBER 16-18, 1989  
GROUNDWATER SAMPLING ROUND

<u>DATE</u>	<u>TIME</u>	<u>WELL ID</u>	<u>WEATHER CONDITIONS</u>
11-17-89	14:30	MW-1	Smoggy, no clouds, 75°F, 10 mph wind from southeast
10-28-89	15:30	MW-2	Smoggy, 70°F, 5 to 10 mph wind from west
10-28-89	13:00	MW-3	Clear, 80°F, 5 mph wind from west
11-16-89	13:00	MW-4	Smoggy, no clouds, 75°F, 10 mph wind from northwest
10-28-89	13:00	MW-5	Clear, 80°F, 5 mph wind from west
10-27-89	18:00	MW-6	Clear, 70°F, no wind
10-28-89	08:45	MW-7	Clear, 68°F, no wind
10-27-89	12:00	MW-8	Clear, 72°F, 0 to 10 mph wind from west
10-27-89	12:00	MW-9	Clear, 72°F, 0 to 10 mph wind from west
10-27-89	15:00	MW-10	Clear, 75°F, 2 mph wind from west
10-27-89	12:00	MW-11	Clear, 72°F, 0 to 10 mph wind from west
10-25-89	12:00	MW-12	Clear, 68°F, 15 mph wind from west
10-25-89	15:30	MW-13	Clear, 68°F, 20 to 30 mph wind from west
10-24-89	14:00	MW-14	Partly cloudy, 72°F, 0 to 10 mph wind from west
10-24-89	10:45	MW-15	Overcast, 68°F, no wind
10-26-89	12:00	MW-23	Clear, 74°F, variable wind
10-26-89	15:00	MW-24	Clear, 78°F, 0 to 5 mph wind from west
10-28-89	10:40	MW-25	Clear, 72°F, 0 to 5 mph wind from west

mph = Miles per hour  
°F = Degrees Fahrenheit



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TABLE A-7 (continued)

WEATHER CONDITIONS, OCTOBER 23-28 AND NOVEMBER 16-18, 1989

GROUNDWATER SAMPLING ROUND

Page 2

<u>DATE</u>	<u>TIME</u>	<u>WELL ID</u>	<u>WEATHER CONDITIONS</u>
10-28-89	08:30	MW-26	Clear, 65°F, no wind
11-18-89	09:40	BF-1	Clear, 75°F, 5 mph wind from east
10-28-89	17:00	BF-2	Clear, 65°F, 5 mph wind from west
10-28-89	13:00	BF-3	Clear, 75°F, 0 to 5 mph wind from west
10-28-89	14:15	BF-4	Smoggy, 70°F, 0 to 5 mph wind from west
10-25-89	12:00	BF-5	Clear, 68°F, 15 mph wind from west
10-25-89	15:30	BF-6	Clear, 68°F, 20 to 30 mph wind from west
10-24-89	14:00	BF-7	Partly cloudy, 72°F, 0 to 10 mph wind from west
10-24-89	10:45	BF-8	Overcast, 68°F, no wind
11-17-89	17:50	BF-9	Clear, 60°F, no wind
10-26-89	08:45	BF-14	Clear, 68°F, no wind
10-26-89	15:00	BF-15	Clear, 78°F, 0 to 5 mph wind from west
11-16-89	14:05	G-1	Clear, 75°F, 15 mph wind from west
11-17-89	15:53	G-2	Clear, 70°F, 5 mph wind from south
10-28-89	17:00	G-3	Clear, 65°F, 5 mph wind from west
10-25-89	12:00	G-4	Clear, 68°F, 15 mph wind from west
10-25-89	15:30	G-5	Clear, 68°F, 20 to 30 mph wind from west
10-24-89	14:00	G-6	Partly cloudy, 72°F, 0 to 10 mph wind from west
10-24-89	10:45	G-7	Overcast, 68°F, no wind

mph = Miles per hour

°F = Degrees Fahrenheit



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TABLE A-7 (continued)  
WEATHER CONDITIONS, OCTOBER 23-28 AND NOVEMBER 16-18, 1989  
GROUNDWATER SAMPLING ROUND  
Page 3

<u>DATE</u>	<u>TIME</u>	<u>WELL ID</u>	<u>WEATHER CONDITIONS</u>
10-27-89	09:30	G-12	Clear, 65°F, no wind
10-26-89	08:45	G-13	Clear, 68°F, no wind
11-17-89	11:00	LG-2	Smoggy, 72°F, 0 to 5 mph wind from southeast
10-25-89	08:36	LW-1	Clear, 65°F, 10 to 20 mph wind from west
10-26-89	17:20	LW-2	Clear, 72°F, 5 to 15 mph wind from west

mph = Miles per hour  
°F = Degrees Fahrenheit



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TABLE A-8  
ELECTRICAL CONDUCTIVITY METER CALIBRATIONS  
OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
GROUNDWATER SAMPLING ROUND

<u>DATE</u>	<u>TIME</u>	<u>CALIBRATION SOLUTION CONCENTRATION*</u> (umhos/cm)	<u>CORRESPONDING EC METER READING**</u> (umhos/cm)	<u>TEMPERATURE OF SOLUTION (°C)</u>
10-24-89	10:25	1,000	900	19.0
10-24-89	10:25	10,000	8,900	19.0
10-24-89	13:54	1,000	1,000	25.0
10-24-89	13:54	10,000	9,500	25.0
10-25-89	08:46	1,000	800	17.0
10-25-89	08:46	10,000	8,000	17.0
10-25-89	15:49	1,000	900	21.0
10-25-89	15:49	10,000	9,000	21.0
10-26-89	08:20	1,000	750	11.0
10-26-89	08:20	10,000	7,100	11.0
10-26-89	14:45	1,000	1,000	26.0
10-26-89	14:45	10,000	9,900	26.0
10-27-89	09:30	1,000	750	11.0
10-27-89	09:30	10,000	7,500	10.5
10-27-89	12:00	1,000	1,000	26.0
10-27-89	12:00	10,000	9,000	26.0
10-27-89	16:26	1,000	1,000	24.0
10-27-89	16:26	10,000	9,500	25.0
10-28-89	07:56	1,000	725	11.0
10-28-89	07:56	10,000	7,000	11.0
10-28-89	07:55	1,000	900	13.0
10-28-89	07:55	10,000	8,000	13.0

\*Yellow Springs Instrument (YSI) conductivity calibration solution values are 1,000 and 10,000 umhos/cm when measured at 25°C

\*\*YSI Model 33 S-C-T meter

EC = Electrical conductivity  
umhos/cm = Micromhos per centimeter  
°C = Degrees Celsius



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TABLE A-8 (continued)  
 ELECTRICAL CONDUCTIVITY METER CALIBRATIONS  
 OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
 GROUNDWATER SAMPLING ROUND

<u>DATE</u>	<u>TIME</u>	<u>CALIBRATION SOLUTION CONCENTRATION*</u> (umhos/cm)	<u>CORRESPONDING EC METER READING**</u> (umhos/cm)	<u>TEMPERATURE OF SOLUTION</u> (°C)
10-28-89	14:00	1,000	900	23.0
10-28-89	14:00	10,000	8,500	23.0
11-16-89	08:20	1,000	905	19.0
11-17-89	07:51	1,000	780	12.0
11-18-89	07:45	1,000	820	14.0

\*Yellow Springs Instrument (YSI) conductivity calibration solution values are 1,000 and 10,000 umhos/cm when measured at 25°C

\*\*YSI Model 33 S-C-T meter

EC = Electrical conductivity  
 umhos/cm = Micromhos per centimeter  
 °C = Degrees Celsius



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TABLE A-9

IDENTIFICATION OF MCDONNELL DOUGLAS SPLIT SAMPLES  
 OCTOBER 23-28 AND NOVEMBER 16-18, 1989,  
 GROUNDWATER SAMPLING ROUND

<u>DATE</u>	<u>SAMPLE LOCATION</u>	<u>SAMPLE TIME</u>	<u>NUMBER OF CONTAINERS</u>	<u>TYPE OF CONTAINERS</u>	<u>SAMPLES PROVIDED TO</u>
10-27-89	MW-8	13:20	2	40-milliliter VOA vial	J. Topp; MDC
			2	1-liter amber glass bottle	
10-27-89	MW-9	14:40	2	40-milliliter VOA vial	J. Topp; MDC
			2	1-liter amber glass bottle	

VOA = Volatile organic analysis  
 MDC = McDonnell Douglas Corporation



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Appendix G



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**APPENDIX G**

**QUARTERLY GROUNDWATER SAMPLING ROUND, FEBRUARY 21-25, 1990**



## APPENDIX G

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- G-1 STATIC WATER LEVELS, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND
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- G-3 IDENTIFICATION OF FIELD DUPLICATE SAMPLES, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND
- G-4 IDENTIFICATION OF LABORATORY SPLIT SAMPLES, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND
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TABLE G-1  
STATIC WATER LEVELS, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

<u>WELL ID</u>	<u>DATE</u>	<u>REFERENCE POINT ELEVATION (feet msl)</u>	<u>DEPTH TO WATER BELOW REFERENCE POINT (feet)</u>	<u>WATER LEVEL ELEVATION (feet msl)</u>	<u>METHOD OF MEASURING</u>
MW-1	02-21-90	42.83	64.81	-21.98	Flat tape sounder
MW-2	02-21-90	48.79	70.10	-21.31	Steel tape
MW-3	02-21-90	47.41	68.23	-20.82	Flat tape sounder
MW-4	02-21-90	46.69	67.70	-21.01	Flat tape sounder
MW-5	02-21-90	44.95	66.28	-21.33	Flat tape sounder
MW-6	02-21-90	45.68	67.18	-21.50	Flat tape sounder
MW-7	02-21-90	47.42	68.72 (water)	-21.30 (water)	Flat tape sounder
	02-24-90		67.97 (product)*		Interface probe
			68.40 (water)*		Interface probe
MW-8	02-21-90	49.09	69.68	-20.59	Flat tape sounder
MW-9	02-21-90	48.67	69.61	-20.94	Flat tape sounder
MW-10	02-21-90	43.20	64.18	-20.98	Flat tape sounder
MW-11	02-21-90	42.69	64.28	-21.59	Flat tape sounder
MW-12	02-21-90	40.17	61.96	-21.79	Flat tape sounder
MW-13	02-21-90	42.34	64.38	-22.04	Flat tape sounder
MW-14	02-21-90	43.13	65.26	-22.13	Flat tape sounder
MW-15	02-21-90	40.51	62.61	-22.10	Flat tape sounder

\*Depth to water below top of casing

msl = Mean sea level



HARGIS + ASSOCIATES, INC.

TABLE G-1 (continued)

STATIC WATER LEVELS, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

Page 2

<u>WELL ID</u>	<u>DATE</u>	<u>REFERENCE POINT ELEVATION (feet msl)</u>	<u>DEPTH TO WATER BELOW REFERENCE POINT (feet)</u>	<u>WATER LEVEL ELEVATION (feet msl)</u>	<u>METHOD OF MEASURING</u>
MW-23	02-21-90	36.35	59.43	-23.08	Flat tape sounder
MW-24	02-21-90	22.40	44.75	-22.35	Flat tape sounder
MW-25	02-21-90	31.98	55.74	-23.76	Flat tape sounder
MW-26	02-21-90	39.17	61.53	-22.36	Flat tape sounder
BF-1	02-21-90	48.28	68.86	-20.58	Flat tape sounder
BF-2	02-21-90	49.49	70.35	-20.86	Flat tape sounder
BF-3	02-21-90	48.27	69.20	-20.93	Flat tape sounder
BF-4	02-21-90	47.67	68.73	-21.06	Flat tape sounder
BF-5	02-21-90	39.37	61.21	-21.84	Flat tape sounder
BF-6	02-21-90	41.70	63.70	-22.00	Flat tape sounder
BF-7	02-21-90	42.64	64.44	-21.80	Flat tape sounder
BF-8	02-21-90	39.72	61.04	-21.32	Flat tape sounder
BF-9	02-21-90	48.69	69.37	-20.68	Flat tape sounder
BF-10	02-21-90	28.67	53.06	-24.39	Flat tape sounder
BF-11	02-21-90	33.66	58.97	-25.31	Flat tape sounder
BF-12	02-21-90	22.20	47.92	-25.72	Flat tape sounder
BF-13	02-21-90	29.52	53.04	-23.52	Flat tape sounder

\*Depth to water below top of casing

msl = Mean sea level

msl = Mean sea level



HARGIS + ASSOCIATES, INC.

TABLE G-1 (continued)

STATIC WATER LEVELS, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

Page 3

<u>WELL ID</u>	<u>DATE</u>	<u>REFERENCE POINT ELEVATION (feet msl)</u>	<u>DEPTH TO WATER BELOW REFERENCE POINT (feet)</u>	<u>WATER LEVEL ELEVATION (feet msl)</u>	<u>METHOD OF MEASURING</u>
BF-14	02-21-90	36.30	59.43	-23.13	Flat tape sounder
BF-15	02-21-90	22.82	45.65	-22.83	Flat tape sounder
BF-16	02-21-90	35.31	60.18	-24.87	Flat tape sounder
BF-17	02-21-90	22.67	48.21	-25.54	Flat tape sounder
G-1	02-21-90	46.66	67.90	-21.24	Flat tape sounder
G-2	02-21-90	43.46	65.21	-21.75	Flat tape sounder
G-3	02-21-90	49.69	70.94	-21.25	Flat tape sounder
G-4	02-21-90	39.70	61.99	-22.29	Flat tape sounder
G-5	02-21-90	41.71	64.08	-22.37	Flat tape sounder
G-6	02-21-90	42.54	64.78	-22.24	Flat tape sounder
G-7	02-21-90	39.88	61.61	-21.73	Flat tape sounder
G-8	02-21-90	22.52	45.97	-23.45	Flat tape sounder
G-9	02-21-90	28.48	53.90	-25.42	Flat tape sounder
G-11	02-21-90	29.48	54.45	-24.97	Flat tape sounder
G-12	02-21-90	25.85	50.12	-24.27	Flat tape sounder
G-13	02-21-90	36.09	60.08	-23.99	Flat tape sounder
LG-1	02-21-90	43.24	65.10	-21.86	Flat tape sounder

\*Depth to water below top of casing

msl = Mean sea level

msl = Mean sea level



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TABLE G-1 (continued)

STATIC WATER LEVELS, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

Page 4

<u>WELL ID</u>	<u>DATE</u>	<u>REFERENCE POINT ELEVATION (feet msl)</u>	<u>DEPTH TO WATER BELOW REFERENCE POINT (feet)</u>	<u>WATER LEVEL ELEVATION (feet msl)</u>	<u>METHOD OF MEASURING</u>
LG-2	02-21-90	44.61	65.97	-21.36	Flat tape sounder
LW-1	02-21-90	45.02	77.18	-32.16	Flat tape sounder
LW-2	02-21-90	42.07	74.50	-32.43	Flat tape sounder
LW-3	02-21-90	40.33	72.63	-32.30	Flat tape sounder

\*Depth to water below top of casing

msl = Mean sea level

msl = Mean sea level



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TABLE G-2  
SAMPLING INFORMATION, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

<u>WELL ID</u>	<u>SAMPLE DATE</u>	<u>TIME PUMP ON</u>	<u>TIME OF SAMPLING</u>	<u>AVERAGE DISCHARGE RATE (gpm)</u>	<u>NUMBER OF GALLONS PER CASING VOLUME</u>	<u>NUMBER OF GALLONS PURGED PRIOR TO SAMPLING</u>	<u>ELECTRICAL CONDUCTIVITY (umhos/cm)</u>	<u>pH</u>	<u>TEMPERATURE (°C)</u>
MW-6	02-24-90	15:13	15:43	1.2	8.5	26	6,200	6.67	22.9
MW-7	02-24-90	16:23	16:56	0.7	7.5	23	4,500	6.38	21.4
MW-8	02-22-90	09:51	10:50	0.4	7.1	24	870	7.65	22.4
MW-9	02-22-90	11:49	12:55	0.4	7.0	24	3,420	6.73	22.5
MW-10	02-22-90	16:05	16:51	0.6	8.6	26	2,210	6.93	21.6
MW-11	02-25-90	09:00	10:45	0.2	8.3	25	3,500	6.86	22.4
MW-12	02-24-90	10:45	12:40	0.2	9.1	23	1,800	7.07	22.2
MW-13	02-24-90	08:44	09:40	0.5	8.2	25	2,780	6.76	21.6
MW-14	02-24-90	08:13	09:25	0.2	4.9	15	1,975	6.77	21.8
MW-15	02-23-90	08:40	10:33	0.2	9.1	28	2,675	7.05	23.1
MW-23	02-25-90	11:26	12:30	0.5	10.1	31	1,600	7.33	21.9
MW-24	02-25-90	12:03	13:13	0.6	12.5	38	1,715	7.36	21.5
MW-25	02-22-90	08:40	10:04	0.3	9.3	28	1,325	7.36	20.9
MW-26	02-24-90	16:55	17:45	0.5	8.1	26	1,890	7.07	21.3

gpm = Gallons per minute  
 umhos/cm = Micromhos per centimeter  
 °C = Degrees Celsius



TABLE G-2 (continued)  
 SAMPLING INFORMATION, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND  
 Page 2

<u>WELL ID</u>	<u>SAMPLE DATE</u>	<u>TIME SAMPLE PUMP ON</u>	<u>TIME OF SAMPLING</u>	<u>AVERAGE DISCHARGE RATE (gpm)</u>	<u>NUMBER OF GALLONS PER CASING VOLUME</u>	<u>NUMBER OF GALLONS PURGED PRIOR TO SAMPLING</u>	<u>ELECTRICAL CONDUCTIVITY (umhos/cm)</u>	<u>pH</u>	<u>TEMPERATURE (°C)</u>
BF-5	02-24-90	10:45	11:12	8.4	46	140	575	7.82	22.1
BF-6	02-24-90	09:50	10:24	6.5	40	190	1,300	7.32	21.7
BF-7	02-24-90	08:13	08:35	7.7	34	118	1,125	7.23	22.0
BF-8	02-23-90	09:29	09:50	9.3	42	130	900	7.47	23.2
BF-9	02-24-90	14:46	15:23	7.4	86	272	730	7.34	22.2
BF-10	02-23-90	12:29	12:50	8.5	57	150	875	8.08	21.5
BF-11	02-23-90	16:00	16:20	7.4	46	145	1,180	7.22	20.5
BF-12	02-23-90	13:56	14:20	7.9	53	175	780	7.81	20.5
BF-13	02-23-90	10:06	10:40	6.7	61	210	7,000	6.67	21.5
BF-14	02-23-90	13:40	14:02	8.3	45	165	775	7.57	21.5
BF-15	02-22-90	15:20	15:45	NA	49	144	1,350	7.08	21.5
BF-16	02-23-90	16:51	17:12	8.0	45	165	895	8.02	20.6
BF-17	02-23-90	15:02	15:27	8.3	51	185	800	7.83	20.9
G-4	02-24-90	11:22	11:59	9.3	86	270	600	8.10	22.1

gpm = Gallons per minute

umhos/cm = Micromhos per centimeter

°C = Degrees Celsius



TABLE G-2 (continued)  
 SAMPLING INFORMATION, FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND  
 Page 3

<u>WELL ID</u>	<u>SAMPLE DATE</u>	<u>TIME SAMPLE PUMP ON</u>	<u>TIME OF SAMPLING</u>	<u>AVERAGE DISCHARGE RATE (gpm)</u>	<u>NUMBER OF GALLONS PER CASTING VOLUME</u>	<u>NUMBER OF GALLONS PURGED PRIOR TO SAMPLING</u>	<u>ELECTRICAL CONDUCTIVITY (umhos/cm)</u>	<u>pH</u>	<u>TEMPERATURE (°C)</u>
G-5	02-24-90	11:07	11:38	8.1	82	247	700	7.79	22.2
G-6	02-24-90	09:35	10:05	9.4	81	245	590	7.91	22.7
G-7	02-23-90	08:40	09:12	8.6	77	240	468	7.99	23.0
G-8	02-23-90	16:46	17:18	10.0	98	295	470	8.19	21.3
G-9	02-23-90	11:20	12:01	9.9	117	375	800	8.08	22.1
G-11	02-23-90	11:16	12:00	10.2	119	420	670	8.19	22.1
G-12	02-23-90	15:39	16:20	8.7	108	335	1,170	7.34	21.4
G-13	02-23-90	14:09	14:49	7.8	100	300	510	8.29	21.6
LG-2	02-24-90	13:35	14:11	8.9	91	275	420	8.03	23.3
LW-1	02-25-90	08:10	09:00	13.2	173	540	410	8.68	22.5
LW-2	02-24-90	12:25	12:55	15.2	130	410	380	7.97	22.5
LW-3	02-23-90	17:47	18:18	14.3	137	435	380	7.99	22.1

gpm = Gallons per minute  
 umhos/cm = Micromhos per centimeter  
 °C = Degrees Celsius



TABLE G-3  
IDENTIFICATION OF FIELD DUPLICATE SAMPLES  
FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>SAMPLE LOCATION</u>	<u>SAMPLE TIME</u>	<u>DUPLICATE SAMPLE ID</u>	<u>FICTITIOUS SAMPLE TIME</u>
02-22-90	MW-25	10:04	MW-2500	09:45
02-23-90	G-11	12:00	G-1100	12:10
02-24-90	BF-7	08:35	BF-700	08:00
02-25-90	LW-1	09:00	LW-100	09:10



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TABLE G-4  
IDENTIFICATION OF LABORATORY SPLIT SAMPLES  
FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>SAMPLE LOCATION</u>	<u>SAMPLE TIME</u>
02-22-90	MW-25	10:04
02-23-90	G-11	12:00
02-24-90	BF-7	08:35
02-25-90	LW-1	09:00

NOTE: Split samples were shipped to Analytical Technologies, Inc., San Diego, California, for EPA Methods 608/8080 and 624/8240 analyses



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TABLE G-5  
IDENTIFICATION OF FIELD BLANKS  
FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>FICTITIOUS SAMPLE TIME</u>	<u>SAMPLE ID</u>	<u>BLANK WATER SOURCE</u>	<u>SAMPLE PREPARATION LOCATION</u>
02-22-90	09:30	WB-1	Brown and Caldwell	MW-25
02-23-90	12:20	WB-1	Brown and Caldwell	G-11
02-24-90	09:00	WB-1	Brown and Caldwell	BF-7
02-25-90	09:30	WB-1	Brown and Caldwell	LW-1

NOTE: Field blank samples were shipped to Brown and Caldwell Laboratories, Glendale, California, for EPA Methods 608/8080 and 624/8240 analyses



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TABLE G-6  
IDENTIFICATION OF TRIP BLANKS  
FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

<u>SAMPLE DATE</u>	<u>FICTITIOUS SAMPLE TIME</u>	<u>SAMPLE ID</u>	<u>SAMPLE PREPARED BY</u>	<u>LABORATORY PREPARATION DATE</u>
02-22-90	10:00	TB-1	Brown and Caldwell	02-15-90
02-23-90	09:00	TB-1	Brown and Caldwell	02-15-90
02-23-90	07:59	TB-2	Brown and Caldwell	02-15-90
02-24-90	07:45	TB-1	Brown and Cadlwell	02-15-90
02-24-90	10:45	TB-2	Brown and Caldwell	02-15-90
02-25-90	07:30	TB-1	Brown and Caldwell	02-24-90



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TABLE G-7  
WEATHER CONDITIONS  
FEBRUARY 21-25, 1990,  
GROUNDWATER SAMPLING ROUND

<u>DATE</u>	<u>TIME</u>	<u>WELL ID</u>	<u>WEATHER CONDITIONS</u>
02-24-90	15:00	MW-6	Partly cloudy, 68°F, 0 to 5 mph wind from west
02-24-90	15:00	MW-7	Partly cloudy, 68°F, 0 to 5 mph wind from west
02-22-90	10:22	MW-8	Smoggy, high clouds, 70°F, 5 mph wind from west
02-22-90	12:00	MW-9	Partly cloudy, 70°F, 5 mph wind from southwest
02-22-90	16:15	MW-10	Partly cloudy, 70°F, 10 mph wind from southwest
02-25-90	08:58	MW-11	Partly cloudy, 66°F, no wind
02-24-90	10:55	MW-12	Partly cloudy, 68°F, 0 to 5 mph wind from west
02-24-90	09:50	MW-13	Partly cloudy, 68°F, no wind
02-24-90	08:20	MW-14	Partly cloudy, 68°F, no wind
02-23-90	08:30	MW-15	Clear, 68°F, no wind
02-25-90	12:15	MW-23	Very high thin clouds, 70°F, no wind
02-25-90	08:58	MW-24	Partly cloudy, 66°F, no wind
02-22-90	08:40	MW-25	Clear, 70°F, no wind
02-24-90	17:00	MW-26	Overcast, smoggy, 65°F, 10 mph wind from west
02-24-90	10:55	BF-5	Partly cloudy, 68°F, 0 to 5 mph wind from west
02-24-90	10:25	BF-6	Partly cloudy, 75°F, no wind

mph = Miles per hour

°F = Degrees Fahrenheit



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TABLE G-7 (continued)  
 WEATHER CONDITIONS, FEBRUARY 21-25, 1990,  
 GROUNDWATER SAMPLING ROUND  
 Page 2

<u>DATE</u>	<u>TIME</u>	<u>WELL ID</u>	<u>WEATHER CONDITIONS</u>
02-24-90	08:20	BF-7	Partly cloudy, 68°F, no wind
02-23-90	08:30	BF-8	Clear, 68°F, no wind
02-24-90	14:50	BF-9	Overcast, smoggy, 70°F, 5 mph wind from northwest
02-23-90	11:21	BF-10	Clear, 76°F, no wind
02-23-90	16:10	BF-11	Partly cloudy, 70°F, 5 mph wind from west
02-23-90	14:05	BF-12	Smoggy, partly cloudy, 80°F, 5 mph wind from west
02-23-90	10:15	BF-13	High clouds, 75°F, no wind
02-23-90	13:36	BF-14	Hazy, 78°F, 10 mph wind from west
02-22-90	14:07	BF-15	Partly cloudy, 72°F, 0 to 5 mph wind from west
02-23-90	17:20	BF-16	Partly cloudy, 68°F, 10 mph wind from southwest
02-23-90	15:30	BF-17	Partly cloudy, 75°F, 5 mph wind from west
02-24-90	10:55	G-4	Partly cloudy, 68°F, 0 to 5 mph wind from west
02-24-90	11:0	G-5	Partly cloudy, smoggy, 70°F, no wind
02-24-90	08:20	G-6	Partly cloudy, 68°F, no wind
02-23-90	08:30	G-7	Clear, 68°F, no wind
02-23-90	10:50	G-8	Hazy, 68°F, 0 to 5 mph wind from west
02-23-90	11:21	G-9	Clear, 76°F, no wind

mph = Miles per hour

°F = Degrees Fahrenheit



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TABLE G-7 (continued)  
 WEATHER CONDITIONS, FEBRUARY 21-25, 1990,  
 GROUNDWATER SAMPLING ROUND  
 Page 3

<u>DATE</u>	<u>TIME</u>	<u>WELL ID</u>	<u>WEATHER CONDITIONS</u>
02-23-90	11:55	G-11	High clouds, 75°F, no wind
02-23-90	13:36	G-12	Hazy, 78°F, 10 mph wind from west
02-23-90	13:36	G-13	Hazy, 78°F, 10 mph wind from west
02-24-90	14:15	LG-2	Overcast, smoggy, 70°F, 5 mph wind from northwest
02-25-90	08:40	LW-1	Overcast, 60°F, 0 to 5 mph wind from west
02-24-90	12:35	LW-2	Partly cloudy, 75°F, no wind
02-23-90	17:50	LW-3	Partly cloudy, 65°F, 5 mph wind from west

mph = Miles per hour  
 °F = Degrees Fahrenheit



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TABLE G-8  
ELECTRICAL CONDUCTIVITY METER CALIBRATIONS  
FEBRUARY 20-25, 1990, GROUNDWATER SAMPLING ROUND

<u>DATE</u>	<u>TIME</u>	<u>CALIBRATION SOLUTION CONCENTRATION*</u> (umhos/cm)	<u>CORRESPONDING EC METER READING**</u> (umhos/cm)	<u>TEMPERATURE OF SOLUTION (°C)</u>
02-22-90	07:18	1,000	700	10.0
02-22-90	07:18	10,000	6,500	10.0
02-22-90	08:22	1,000	820	12.0
02-22-90	08:26	10,000	6,600	12.0
02-22-90	13:00	1,000	1,075	28.0
02-22-90	13:00	10,000	10,000	28.0
02-23-90	07:30	1,000	790	12.5
02-23-90	07:30	10,000	7,400	12.5
02-23-90	08:36	1,000	750	12.5
02-23-90	08:40	10,000	7,400	12.5
02-23-90	13:38	1,000	1,000	28.8
02-23-90	13:38	10,000	10,000	26.0
02-23-90	16:50	1,000	980	17.5
02-23-90	16:50	10,000	9,200	17.5
02-24-90	07:20	1,000	750	12.0
02-24-90	07:20	10,000	7,100	12.0
02-24-90	07:22	1,000	800	14.0
02-24-90	07:25	10,000	7,400	14.1
02-24-90	13:12	1,000	950	23.1
02-24-90	13:15	10,000	8,500	23.1
02-24-90	16:02	1,000	1,050	26
02-24-90	16:02	10,000	10,500	26
02-25-90	07:22	1,000	800	15.1
02-25-90	07:25	10,000	8,300	15.3
02-25-90	08:40	1,000	800	14.0
02-25-90	08:40	10,000	7,800	14.0

\*Yellow Springs Instrument (YSI) conductivity calibration solution values are 1,000 and 10,000 umhos/cm when measured at 25°C

\*\*YSI Model 33 S-C-T meter

EC = Electrical conductivity  
umhos/cm = Micromhos per centimeter  
°C = Degrees Celsius



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TABLE G-9

IDENTIFICATION OF MCDONNELL DOUGLAS SPLIT SAMPLES  
FEBRUARY 21-25, 1990, GROUNDWATER SAMPLING ROUND

<u>DATE</u>	<u>SAMPLE LOCATION</u>	<u>SAMPLE TIME</u>	<u>NUMBER OF CONTAINERS</u>	<u>TYPE OF CONTAINERS</u>	<u>SAMPLES PROVIDED TO</u>
02-22-90	MW-8	10:50	2	40-milliliter VOA vial 1-liter amber glass bottle	D. Palacios, MDC
02-22-90	MW-9	12:55	2	40-milliliter VOA vial 1-liter amber glass bottle	D. Palacios, MDC

VOA = Volatile organic analysis  
 MDC = McDonnell Douglas Corporation



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